

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/002219

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F04B35/00 F03G7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F04B F03G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 344 911 A (KIMBALL C.M.) 6 July 1886 (1886-07-06) the whole document	1-17
X	US 4 173 431 A (SMITH ROLAND L) 6 November 1979 (1979-11-06) the whole document	1-17
X	US 1 771 200 A (BALARD AKERS OSCAR) 22 July 1930 (1930-07-22) the whole document	1-17
X	US 4 212 598 A (BANKS STANLEY E ET AL) 15 July 1980 (1980-07-15) the whole document	1-17
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

28 September 2004

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06/10/2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 290 115 A (NAKATSU SENKICHI) 13 December 1995 (1995-12-13) the whole document -----	1-17
X	US 6 204 568 B1 (RUNNER JOHN) 20 March 2001 (2001-03-20) the whole document -----	1-17
X	US 5 355 674 A (ROSENBERG BARUCH) 18 October 1994 (1994-10-18) the whole document -----	1-17
X	DE 29 41 079 A (ZIMMER CORNELIUS P) 23 April 1981 (1981-04-23) the whole document -----	1-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

WI/IB2004/002219

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 344911	A		NONE	
US 4173431	A	06-11-1979	US 4115034 A US 4160624 A	19-09-1978 10-07-1979
US 1771200	A	22-07-1930	NONE	
US 4212598	A	15-07-1980	NONE	
GB 2290115	A	13-12-1995	JP 8003905 A	09-01-1996
US 6204568	B1	20-03-2001	NONE	
US 5355674	A	18-10-1994	AU 8509291 A BR 9106873 A DE 69111244 D1 WO 9205366 A1 EP 0548147 A1 ES 2076545 T3 JP 6500610 T RU 2063548 C1	15-04-1992 06-07-1993 17-08-1995 02-04-1992 30-06-1993 01-11-1995 20-01-1994 10-07-1996
DE 2941079	A	23-04-1981	DE 2941079 A1	23-04-1981